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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,893

07/28/2006

Hirokazu Kugai

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EXAMINER

SLIFKA, COLIN W

ART UNIT

PAPER NUMBER

4162

MAIL DATE

DELIVERY MODE

05/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,893	<b>Applicant(s)</b> KUGAI ET AL.	
	<b>Examiner</b> COLIN W. SLIFKA	<b>Art Unit</b> 4162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06/01/2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/28/2006, 06/01/2007</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: claim 1 refers to "ratio" but it appears to actually be referring to an amount. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the coercive force" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the average particle size" in claim 1 or 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the particle size distribution" in claim 1 or 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsukada et al (US 5,800,636). Tsukada teaches "a dust core consisting essentially of iron powder particles with a particle size of 75 to 200  $\mu\text{m}$ ...and 300-2,500 ppm of oxygen (Abstract)." Regarding claims 1, 2, 6, and 7, Tsukada teaches that the "dust core preferably has an oxygen content of 300 to 2,500 ppm (col. 11, lines 32-33)," which converts to 0.03 to 0.25 wt%. Regarding claims 2 and 7, the materials of Tsukada are commensurate with the claimed product and would therefore be expected to possess similar characteristics. Regarding claims 3 and 4, Tsukada teaches that "the iron powder consists of particles having a particle size of 75 to 200  $\mu\text{m}$ , more preferable 125 to 180  $\mu\text{m}$  (col. 6, lines 26-28)." Regarding claim 5, Tsukada teaches that the "iron particles bear on their surface a binder layer" to provide insulation (col. 9, lines 60-61).

Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatauchi et al (JP 2001-189211A). Hatauchi teaches an iron dust core with a coercive force of less than 80 A/m. Hatauchi does not recognize oxygen as being present in the

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dust core metallic alloy therefore it is considered to have a concentration of zero or at most as a level of impurity.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 6 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by Takemoto et al (JP 2004-172469A). Regarding claims 1 and 2, Takemoto teaches a soft magnetism powder with an oxygen concentration content of 0.01-0.15 mass %. Regarding claims 2 and 7, the materials of Takemoto are commensurate with the claimed product and would therefore be expected to possess similar characteristics. Regarding claims 3 and 4, Takemoto includes a table that includes particle sizes within the limitations of claims 3 and 4. Regarding claims 6 and 7, Takemoto teaches a powder magnetic core.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukada et al (US 5,800,636) or Takemoto et al (JP 2004-172469A) and further in view of Hatauchi. Tsukada and Takemoto teach dust cores as discussed above but do not teach a specific coercive force. Hatauchi teaches a low coercive force for a dust

core with excellent specific resistance and reduced overall current loss. It would have been obvious to one of ordinary skill in the art at the time of the invention to form the dust cores of Tsukada or Takemoto with a low coercive force as taught by Hatauchi for the purpose of providing excellent resistance and current loss properties to the dust core.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto et al (JP 2004-172469A) in view of Ochiai et al (US 4,820,338). Takemoto teaches a soft magnetic material and dust core as discussed above. Takemoto does not teach insulating coated films on the magnetic particles. Ochiai teaches a magnetic powder composition suitable for manufacturing a powder core, and in Table 4 includes particle sizes ranging from 88-210  $\mu\text{m}$ . Ochiai further teaches an insulating polymer that is used as a binder for binding each particle of the magnetic material (col. 4, lines 25-27). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the insulating binder taught by Ochiai to bind the magnetic materials taught by Takemoto and electrically insulate one particle from another.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLIN W. SLIFKA whose telephone number is (571)270-5830. The examiner can normally be reached on Monday-Thursday, 10:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLIN W SLIFKA/  
Examiner, Art Unit 4162

/Jennifer McNeil/  
Supervisory Patent Examiner, Art Unit 4162